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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,337	08/25/2000	KEQIANG WU	104107.01	5854

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EXAMINER

MEHTA, ASHWIN D

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 11/20/2002

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/645,337

Applicant(s)

WU ET AL.

Examiner

Ashwin Mehta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-19 and 29-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-19, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The objection to claims 1, 14, and 15 is withdrawn in light of the claim amendments.
3. The rejection of claims 1-9 and 11-20 under 35 U.S.C. 112, 2nd paragraph, is withdrawn in light of the claim amendments or cancellation.
4. The rejection of claim 9 under 35 U.S.C. 102(b) is withdrawn in light of the claim amendment.
5. The rejection of claims 9, 11, and 17-20 under 35 U.S.C. 102(e) is withdrawn in light of the claim amendments.

Drawings

6. Substitute Figure 4A, submitted 09 September 2002, differs from original Figure 4A, in that in the original figure a line appeared under amino acids 150-195 of the ZmHD2 sequence, and in the newly submitted figure, the underline appears at amino acids 200-238 of ZmHD2. Correction/clarification is required. New matter must be avoided. Further, in the newly

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submitted figure the line goes through the letters representing the amino acids, rather than under them.

Specification

7. The specification continues to fail to comply with the sequence rules of 37 CFR 1.821-1.825, for the reasons of record stated in the Office action mailed 08 May 2002 under item 6.

In the paper submitted 09 September 2002, Applicants indicate that they amended the brief descriptions of Figures 3 and 4 to include sequence identifiers where appropriate (response, page 17, 1st paragraph). However, Figures 3 and 4 include the sequences of maize RPD3, yeast RPD3, and maize HD2, which must also be included within the sequence listing, and referred to in the brief descriptions of Figures 3 and 4 by their assigned sequence identifiers.

Claim Rejections - 35 USC § 112

8. Claims 9, 11-13, 17-19, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitations "deletion or fragment" in line 4 of claim 9 and "fragment or deletion" in line 3 of claim 29 render the claims indefinite. It is not clear if "fragment" and "deletion" are referring to the same thing, or if "deletion" is referring to the sequences that are removed from AtRPD3A, AtRPD3B, AtRPD2A and AtRPD2B. If they are referring to the same thing, it is suggested that "deletion" be removed from the claims.

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9. Claims 1-9 and 11-19 remain and new claims 29 and 30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record stated in the Office action mailed 08 May 2002 under item 9. Applicants traverse the rejection in the paper received 09 September 2002. Applicants' arguments have been fully considered but were not found persuasive.

Applicants argue that Figures 10A & B and the specification disclose the preparation of 5 deletion fragments of AtHD2A, and that their activities indicate that at least the deacetylase and HD binding domains are required for activity, and that these domains are found in AtHD2A, AtHD2B, and ZmHD2 (response, page 18, 2nd paragraph). However, only 2 of the 5 fragments AtHD2A fragments retain activity. Further, AtHD2B comprises 60 amino acids more than AtHD2A, and the specification does not disclose the importance of these sequences to its activity. Furtherstill, as the specification indicates that RPD3-like and HD2-like proteins do not share sequence homology (page 14, lines 22-26), the AtHD2A fragments do not provide any information for the claimed AtRPD3A and AtRPD3B deletions or fragments. The only fragments described by the specification as retaining repression of gene expression activity are amino acids 1-161 and 1-211 of AtHD2A. The specification also does not describe any nucleotide sequence that has 80% identity with SEQ ID NO: 3, 5, or 7, or a fragment thereof, which retains its activity of repressing gene expression. The only nucleotide sequences described by the specification as encoding amino acid sequences having this activity are those encoding SEQ ID NOs: 4, 6, 8, and amino acids 1-161 or 1-211 of SEQ ID NO: 6.

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10. Claims 1-9 and 11-19 remain and new claims 29 and 30 are rejected under 35 U.S.C. 112, first paragraph, for the reasons of record stated in the Office action mailed 08 May 2002 under item 10. Applicants traverse the rejection in the paper received 09 September 2002. Applicants' arguments have been fully considered but were not found persuasive.

Applicants argue that, as explained in the argument put forth addressing the written description rejection, that the specification discloses a method by which a person skilled in the art could make and use the invention commensurate in scope with the claims (response, page 20, 1st full paragraph). However, again, the specification teaches only 2 fragments of AtHD2A that retain its activity. The specification does not teach any fragments of the AtHD2B AtRPD3A or AtRPD3B. Further, as RPD3- and HD2-like proteins do not share homology, it is not clear how the teachings of the two AtHD2A fragments cannot be extrapolated to AtRPD3A and AtRPD3B. Further, the specification does not reduce to practice any nucleotide sequences that share 80% identity with SEQ ID NO: 3, 5, 7, or fragments thereof, that retain their activity. See In re Bell, 26 USPQ2d 1529, 1532 (Fed. Cir. 1993) and In re Deuel, 34 USPQ2d, 1210 (Fed. Cir. 1995), which teach that the mere existence of a protein does not enable claims drawn to a nucleic acid encoding that protein.

Claim Rejections - 35 USC § 103

11. Claims 1-3, 5-8, and 14-16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (WO 98/48825) in combination with Baldwin et al. (U.S. Patent No. 6,287,843), for the reasons of record stated in the Office action mailed 08 May 2002 under item

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13 for claims 1-9 and 11-20. Applicants traverse the rejection in the paper submitted 09 September 2002. Applicants' arguments were fully considered but were not found fully persuasive.

Applicants argue that Evans et al. teach regulation of gene expression in animal systems and one of skill in the art would not have been led to the method of claim 1 (response, paragraph bridging pages 21-22). However, Evans et al. do teach a method of repressing gene transcription of a coding sequence of interest, comprising a first chimeric nucleotide sequence comprising a first regulatory element in operative association with a gene of interest, and a controlling sequence, and a second chimeric nucleotide sequence comprising a second regulatory element operatively associated with a nucleotide sequence encoding a histone deacetylase fused with a DNA binding protein, wherein said DNA binding protein interacts with said controlling sequence. It would have been obvious to use the same system to control transcription of coding sequences of interest in plants, as it offers a way to control the expression of transgenes in agronomically important crop plants. Applicants also argue that Baldwin et al. do not teach or suggest the production of a fusion protein comprising histone deacetylase and a DNA binding protein (response, page 22, 1st full paragraph). However, Evans et al. teach this. Applicants also argue that Evans et al. and Baldwin et al. do not teach the nucleotide sequences of claim 9. The rejection is withdrawn from claims 4, 9, 11-13, and 17-19.

Summary

12. Claims 1-9, 11-19, 29, and 30 are rejected. Claim 31 is allowed.

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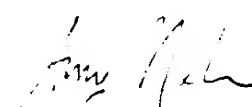
13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this or earlier communications from the examiner should be directed to Ashwin Mehta whose telephone number is 703-306-4540. The examiner can normally be reached on Mondays-Thursday and alternate Fridays from 8:00 A.M to 5:30 P.M.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at 703-306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 and 703-872-9306 for regular communications and 703-872-9307 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

A.M.
November 8, 2002



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